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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,004	06/03/2005	Akinori Taira	2611-0234-PUS1	6865
2292 7590 06/26/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
LEE, SIU M				
ART UNIT		PAPER NUMBER		
2611				
NOTIFICATION DATE		DELIVERY MODE		
06/26/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/538,004

Applicant(s)

TAIRA, AKINORI

Examiner

SIU M. LEE

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 7, 10 and 11 is/are pending in the application.
4a) Of the above claim(s) 3-6, 8, 9 and 12-15 is/are withdrawn from consideration.
5) ☒ Claim(s) 1-2, 10-11 is/are allowed.
6) ☒ Claim(s) 7 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 03 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species 1 in the reply filed on 4/30/2008 is acknowledged.

Drawings

2. The drawings are objected to because in figure 2 and figure 8, the name of block 25 should be corrected to "time synchronization unit" according to the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 7 is rejected under 35 U.S.C. 102(e) as being anticipated by Hasegawa et al. (US 2004/0252629 A1).

Hasegawa discloses a transmitter device comprising:

a by-channel known signal generating unit that generates known signals by channels which are spread by a code orthogonal between channels (S/P 52a, orthogonal code generator 52b, and multiplier 52c generate by-channel known signal by passing the pilot signal through S/P unit 52a and multiply the output of the S/P unit by orthogonal code from the orthogonal code generator 52b as shown in figure 15, paragraph 0115);

a common known signal generating unit that generates a known signal common to a plurality of channels (a common known signal) (channel identification gold code) (common known signal is generate by the channel identification gold code generator

multiplying with the output of multiplier 52c by the channel identification gold code multiplier 83 as shown in figure 15, paragraph 0120); and

a transmission signal generating unit (switch 53, guard interval insertion unit 54, orthogonal modulator 55 and the radio transmitter 56) that generates transmission signal by channels, by allocating user data, the common known signal, and the known signals by channels according to a prescribed frame format (the frame format in figure 1, paragraph 0062-0063).

Allowable Subject Matter

5. The following is an examiner's statement of reasons for allowance:

(1) Regarding claims 1 and 2:

The present invention describes a communication system wherein the communication device at a transmitting side comprises: a by-channel known signal generating unit that generates known signals by channels which are spread by a code orthogonal between channels; a common known signal generating unit that generates a known signal common to a plurality of channels (a common known signal); and a transmission signal generating unit that generates transmission signals by channels, by allocating user data, the common known signal, and the known signals by channels according to a prescribed frame format, and the communication device at a receiving side comprises: an initial synchronizing unit that establishes a timing synchronization and a frequency synchronization using the common known signal; and a by-channel known signal extracting unit that extracts the known signals by channels from a

reception signal, after establishing the timing synchronization. The closest prior art, Hasegawa et al. (US 2004/0252629 A1) discloses a similar system but fail to disclose an initial synchronizing unit that establishes a timing synchronization and a frequency synchronization using the common known signal; and a by-channel known signal extracting unit that extracts the known signals by channels from a reception signal, after establishing the timing synchronization. This distinct feature has been added to claim 1, thus rendering claims 1-2 allowable.

(2) Regarding claims 10-11:

The present invention describes a receiver having a plurality of receiving antennas, the receiving device comprising an initial synchronizing unit that establishes a timing synchronization and a frequency synchronization using a known signal common to a plurality of channels (a common known signal); and a by-channel known signal extracting unit that extracts known signals by channels spread by a code orthogonal between channels, from a reception signal, after establishing the timing synchronization. The closest prior art, Hasegawa et al. (US 2004/0252629 A1) discloses a similar system but fail to disclose an initial synchronizing unit that establishes a timing synchronization and a frequency synchronization using a known signal common to a plurality of channels (a common known signal); and a by-channel known signal extracting unit that extracts known signals by channels spread by a code orthogonal between channels, from a reception signal, after establishing the timing synchronization. This distinct feature has been added to claim 10, thus rendering claims 10-11 allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bahrenburg et al. (US 6,959,010 B1) discloses a method and radio station for data transmission. Ma et al. (US 2004/0246998 A1) discloses a physical layer structures and initial access schemes in a unsynchronized communication network. Takano (US 2003/0123529 A1) discloses dispreading method, spreading code assigning method, mobile terminal and base transceiver station. Holma et al. (US 7,085,248 B1) discloses a method of identifying information addressed to a user in a communication system and a communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SIU M. LEE whose telephone number is (571)270-1083. The examiner can normally be reached on Mon-Fri, 7:30-4:00 with every other Friday off

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Siu M Lee/
Examiner, Art Unit 2611
6/9/2008

/Chieh M. Fan/

Supervisory Patent Examiner, Art Unit 2611